Department of Energy
National Nuclear Security Administration
Pantex Site Office
P. O. Box 30030
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National Nuclear Security Administration

SEP - 8 2005

MEMORANDUM FOR: Daniel E. Glenn, Manager, Pantex Site Office

FROM: Karl E. Waltzer, Assistant Manger for Nuclear Engineering

SUBJECT: Second Self-Assessment of the PXSO Safety System Oversight (SSO) Program

REFERENCE: (1) Federal Technical Capability Program Fiscal Year 2004 Annual Plan
(2) Implementation Assessment of the Pantex Site Office Safety System Oversight Program, January 2005

In accordance with reference (1), a second self-assessment of the PXSO Safety System Oversight Program was conducted. An initial assessment of program implementation was conducted per reference (2). The assessment concluded that an effective SSO Program has been established at PXSO. Although significant SSO oversight activities have been accomplished thus far, additional management attention is needed in two areas to improve program effectiveness.

The attached report contains the details of the one finding and one opportunity for improvement noted during the second assessment. Corrective actions will be implemented to address the two issues noted and tracked to completion utilizing the E-STARS issue tracking system.

Questions regarding the report should be referred to Jeff Tedrow at extension 3174.

Attachment

cc w/attachment
T. Hicks, PXSO, 12-36
E. Demerson, PXSO, 12-36
C. Alvarado, PXSO, 12-42
J. Johnson, PXSO, 12-36
J. Kirby, PXSO, 12-36
W. Scott, ORP

cc w/o attachment
J. Tedrow, PXSO, 12-36
S. Dolezal, PXSO, 12-36
T. Zimmerman, PXSO, 12-36
J. Landmesser, PXSO, 12-36

PXSO
Safety System Oversight
Self-Assessment
Report

I. Introduction:

In accordance with commitments made in response to DNFSB Recommendation 2000-2 to implement a Safety System Oversight (SSO) program, the FY2004 Federal Technical Capability Program Plan Actions 2.5 and 2.6 required assessments be performed on the status of implementation of the SSO program at site offices. This assessment is intended to be the second assessment of the PXSO SSO Program conducted to ensure satisfactory complete implementation of program requirements. An initial assessment of the Implementation of the PXSO SSO Program was conducted in January 2005.

To assist in these assessments, specific criteria were developed and published on the SSO website. These Criteria and Review Approach Documents (CRADs) were utilized to conduct this assessment to validate satisfactory implementation of the PXSO SSO program (Appendix B).

Dates of Review: 8/25/05-9/9/05

Team Members: Leader - Jeff Tedrow, SE Team Lead
Scott Dolezal, Jim Landmesser, Terry Zimmerman

II. Executive Summary:

The scope of this assessment was limited to the Safety System Oversight Program functional areas Program, Training and Qualification, Management, and Oversight Performance. All observations from the previous assessment have been closed. Only two new issues were identified during this assessment.

Conclusion:

An effective Safety System Oversight Program has been established at PXSO. Although significant SSO oversight activities have been accomplished thus far, additional management attention is needed in two areas to improve program effectiveness:

- Finding PGM.1.3-1: SSO personnel have not been designated for all Safety Management Programs (SMPs).
- Opportunity for Improvement OP.2.1.2-1: Establish a schedule for SSO to observe routine periodic surveillance tests.

The two issues involve the formal designation of SSO personnel for the remainder of the safety management programs credited in the Documented Safety Analysis and to increase SSO SE field observations thereby transitioning to a proactive posture. It is noted that the current SMP Subject Matter Experts already accomplish many of the SSO functions and that the designation will mostly be a formality.

III. Review Approach:

- Utilizing the appropriate CRAD for the functional area being assessed, reviewed pertinent procedures and documentation to ascertain the status of implementation for the PXSO SSO program.
- Interviewed SSO personnel as necessary to ascertain the status of implementation for the PXSO SSO program.
- Conducted field observations as appropriate to ascertain the status of implementation for the PXSO SSO program.
- Reviewed the disposition of findings from the initial assessment of the SSO program. Assessed the adequacy of corrective actions taken.

IV. Scope:

The scope of this assessment was limited to the functional areas covered in the CRADS. These areas are Program, Training and Qualification, Management, and Oversight Performance.

V. Assessment Results

The assessment was conducted in accordance with the Assessment Plan and associated CRADS (Appendix B). If specific issues/findings were uncovered which have previously been identified and corrective action is currently being tracked to completion, the issue was not repeated in this assessment but rather simply referred to.

Findings:

- Finding PGM.1.3-1: SSO personnel have not been designated for all Safety Management Programs.
- Opportunity for Improvement OP.2.1.2-1: Establish a schedule for SSO to observe routine periodic surveillance tests.

The details of the review (Form 1s) and associated findings (Form 2s) are included in Appendix A.

VI. Action on Previous Assessment Findings

The first SSO Program Assessment was completed in November 2004. No findings were identified, but several observations were noted. A corrective action plan was developed and approved to address the observations. This plan was approved on March 2, 2005, and actions entered into E-STARS for tracking completion. All of the identified observations have been closed:

- (Closed) PGM1(1) – PXSO SSO qualification standards were established prior to the availability of the generic safety system engineer standard. The existing standards should be compared to the generic SSO standard and additional competencies added as necessary. Action: Presently a generic SSO qualification standard has not been issued. The FTCP web page contains a generic standard written for River Protection with some specifics for that site. This document was reviewed and some new pertinent site specific competencies were identified. Upon issuance, the generic SSO qualification standard will be incorporated into

requalifications and qualifications for new employees similar to that done for the Fire Protection SE.

- (Closed) PGM1(2) – Formally document assignment of SEs for vital safety systems and transmit to BWXT.
  Action: Letter sent to BWXT listing the PXSO SEs to their assigned vital safety systems on March 3, 2005.
- (Closed) OP2(1) – Corrective actions from the SSO oversight report are not being placed in a tracking/monitoring system
  Action: All SE assessment findings are now being entered into the E-STARS tracking system.
- (Closed) OP2(2) – The M&O contract does not contain any directive or standard for configuration management requirements.
  Action: Tasking letter initiated 4/1/05 to include DOE STD-1073-2003 into the S/RIDs. BWXT has developed a plant-wide CM Policy Statement which is currently under review and is developing a detailed action plan to implement the CM requirements on a graded approach throughout the site.
- (Closed) OP2(3) – The PXSO Site Manager, AMOA, and FR Supervisor should be included on SE assessment report distribution.
  Action: Reliance is placed upon on the E-STARS data base for report/finding distribution to other management organizations. The AMOA has been included on SE assessment distribution for information and forwarding to his subordinate staff as deemed appropriate (FRS).

VII. References:

- DNFSB Recommendation 2000-2, Configuration Management, Vital Safety Systems, dated March 8, 2000
- DOE M426.1-1A, Federal Technical Capability Manual, dated 5/18/04
- Federal Technical Capability Program Fiscal Tear 2004 Annual Plan, dated November 20, 2003
- IOP-AMNE-02, Safety System Oversight Program, Revision 0, dated 8/23/04

Appendix A

PXSO

Safety System Oversight Program

Self-Assessment

Assessment Forms (Form 1s & Form 2s)

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT
APPRAISAL FORM
FORM - 1

Objective Number: PGM.1	Criteria Number: PGM.1.1 - PGM.1.7	Date of Review: August 25 – September 30, 2005

Objective: An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Criteria:

PGM.1.1 The SSO Qualification Program is part of the Technical Qualification Program (DOE M 426.1-1A, Chapter III, Section 1, 2.b (1)).

PGM.1.2 The SSO Program establishes appropriate training, qualification, and performance requirements for SSO personnel and the supervisors are held accountable for achieving them (DOE M 426.1-1A, Chapter III, Section 1, 2.b (2)).

PGM.1.3 The safety systems and Safety Management Programs (SMPs) included in the SSO Program align with those systems and programs identified in the applicable Documented Safety Analysis (DSA) (DOE M 426.1-1A, Chapter III, Section 1, 4.c).

PGM.1.4 Safety system oversight requirements are defined and implemented, for example, functions, responsibilities, and authorities of personnel assigned to perform safety system oversight and their interface/support of Facility Representatives are clearly defined, and SSO staffing needs are identified and there is a plan or process to ensure future staffing needs are met and maintained (DOE M 426.1-1A, Chapter III, Section 1, 2.b (3) & (4)).

PGM.1.5 Affected DOE and contractor managers understand the SSO role and relationship to Facility Representatives and the contractor's cognizant System Engineers, and provide the necessary access and support (DOE M 426.1-1A, Chapter III, Section 1, 3.d).

PGM.1.6 Qualifying Officials are assigned to sign site-specific Qualification Cards (DOE M 426.1-1A, Chapter III, Section 1, 2.b (6)).

PGM.1.7 The SSO Program contains features to verify that SSO candidates possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performance of safety systems in meeting established safety and mission requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.b (5)).

Method of Appraisal:
Records Reviewed:

- PXSO Procedure 103.4.0, revision 4
- PXSO IOP-AMNE-02, revision 0
- DOE M 426.1-1A, 5/18/04
- TQP Qualification Matrix, 8/25/2005

Interviews Conducted:

- BWXT SE Manager
- PXSO AMOA

Field Observations:

- Morning Conference Call with FRS

Discussion of Results:

PGM.1.1
PXSO System Engineering has established qualification standards and qualification cards for each SE by discipline. These qualifications are maintained in accordance with the TQP program. Presently each SE (team lead, mechanical, electrical, and fire protection) has formal qualification standards and cards. Subject matter experts for each credited Safety Management Program likewise have formal qualification standards and cards IAW DOE M 426.1-1A. The specific content of the qualification standards are discussed under the TQ CRAD. This criteria was considered to be met.

PGM.1.2
Training and qualification dates are formally assigned via the memorandum which transmits the qualification standard to the individual. These dates are tracked and distributed to management on a frequent basis via the TQP Progress Matrix which is distributed bi-weekly. Qualification progress which is less than satisfactory receives a yellow (for increased attention needed) color or red (significantly behind schedule and devoted time needed) color. This progress matrix is provided to the Office Manager and is discussed at the senior staff meeting. This criteria was considered met.

PGM.1.3
For safety systems, a list of systems and personnel assignments has been established. As described in IOP-AMNE-02, the scope of the SSO program includes those active systems credited in the DSA to perform a safety function (safety class or safety significant). In addition, several active systems which are considered important defense-in-depth and some passive systems have been included. The specific list of systems under the purview of the program is maintained by the contractor under configuration management (CMD-006). A list of specific SSO system personnel assignments is maintained by the Lead-System Engineering. Presently this list includes the following systems: Facility Structure; Dynamic Balancer; Contaminated Waste Isolation Valve; Task Exhaust; Blast Valve; Facility Crane Assembly; Blast Door

Interlock; Door Interlock System; Emergency Lighting; Uninteruptible Power Supply; Lightning Detection and Warning System; Thermal Monitoring System; RADSAFE; Surge Suppression; Lightning Bonding; RAMS; Paint Booth Ventilation; Fume Hood Ventilation; Fire Suppression, High Pressure Fire Loop; and, Fire Alarm and Detection. A check of the current DSA revealed that all required active safety systems were appropriately included under the program and that SSO personnel assignments have been made. This criteria was considered met for the safety systems.

For SMPs, only the Configuration Management, Preventive Maintenance, Surveillance Testing, and Inservice Inspection programs credited in the DSA have been assigned. No documentation was available to show that other SMPs credited in the DSA (Criticality Safety, Radiation Protection, Hazardous Material, Radioactive Waste Management, Operational Safety, and Emergency Preparedness programs for example) had been included in an SSO program. Although each SMP has a designated Subject Matter Expert (SME), no formal designation of the SME as SSO personnel was evident. **Finding PGM.1.3-1: SSO personnel have not been designated for all Safety Management Programs.**

Discussion with the RSP SME regarding his qualifications and comparison with the SSO Knowledge, Skills, and Abilities (KSA) listed in DOE M 426.1-1A revealed similar requirements. The SSO KSAs require identification and knowledge of specific authorization basis documents and requirements credited by the DSA for the SMP, maintenance of the SMP, USQ process, contractor's program implementation, root cause analysis, and periodic program assessments. The RSP SME performs these functions already although the qualification standard may not specifically address the credited DSA requirements.

PGM.1.4

For safety systems, SSO oversight requirements, including functions, responsibilities, authorities, and interface with Facility Representative personnel, have been defined in IOP-AMNE-02 and the PXSO 103.4.0, Functions, Responsibilities, and Authorities Manual (PXSO FRAM).

Section 5.g(4) of the PXSO FRAM describes the function of the SE group and states that the SE group provides oversight of the contractor's SE Program. Additional tasks included Integrated Implementation Plan oversight, and for oversight for safety management systems (Systems, Structures, and Component maintenance and design; and, identification of general design criteria for new/modified safety systems). Procedure IOP-AMNE-02 further defined these functions. A cross-check of the IOP duties with DOE M 426.1-1A found close agreement.

A recent staffing analysis was conducted in March 2005 to support the assignment of additional SSO personnel to the SE Group to support oversight of the Special Tooling and Electrical Testers programs. This request was refused at the March Staffing Summit.

This criteria was considered met.

PGM.1.5

Procedure IOP-AMNE-02 defines the roles of SSO SE personnel and the relationship they have with other PXSO departments. Through day-to-day contacts between the PXSO SEs and their counterparts in BWXT, the SSO role and relationship with the BWXT's cognizant System Engineers is well understood. Formal assignments of SSO personnel to safety systems has been made and transmitted to BWXT in a March 3, 2005 memorandum. Through the morning conference calls, the SSO role and relationship with PXSO Facility Representatives is reinforced. The SSO system assignment list has also been distributed to the FRS and PXSO duty officers for notification of system problems.

Interviews with PXSO and BWXT Management revealed a clear understanding of the role and interfaces of SSO SE personnel and PXSO FRS and BWXT SEs.

This criteria was considered met.

PGM.1.6

Qualifying officials for SSO personnel are published in the Pantex Site Office – Qualified Officials List under Systems Engineering and Fire Protection. This list is maintained by the PXSO Training Office. This criteria was considered met.

PGM.1.7

Through the qualification process (qualification standard and formal classroom training), The SSO Program ensures that SSO personnel possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performance of safety systems in meeting established safety and mission requirements. This criteria was considered met.

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT APPRAISAL FORM
FORM - 2

Objective Number: PGM.1	Criteria Number: PGM.1.3	Finding Number: PGM.1.3-1	Date of Review: August 25 – September 30, 2005

Issue:
SSO personnel have not been designated for all Safety Management Programs.

Requirement(s):
DOE M 426.1-1A requires the identification of safety management programs relied upon in the DSA and determination of the number of staff members to be assigned and qualified.

Reference(s) (specific as to section):
DOE M 426.1-1A, Chapter III, Section 1.4.c.

Discussion:
For Safety Management Programs (SMP), only the Configuration Management, Surveillance Testing, and Inservice Inspection programs credited in the DSA have been assigned in IOP-AMNE-02. No documentation was available to show that other SMPs credited in the DSA (Criticality Safety, Radiation Protection, Hazardous Material, Radioactive Waste Management, Operational Safety, and Emergency Preparedness programs for example) had been included in an SSO program. Although each SMP has a designated Subject Matter Expert (SME), no formal designation of the SME as SSO personnel was evident.

Finding Designation:
Finding

Inspected by: _____ Team Member

Approved by: _____ Team Leader

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT
APPRAISAL FORM
FORM - 1

Objective Number: TQ.1	Criteria Number: TQ.1.1 - TQ.1.5	Date of Review: August 25 – September 30, 2005

Objective: SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Criteria:

TQ.1.1 Supervisors with responsibilities for SSO personnel maintain Senior Technical Safety Manager (STSM) qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.c (1)).

TQ.1.2 Site-specific qualification standards and cards have been developed and a documented process is implemented to assure that SSO candidates meet, at a minimum, the SSO knowledge, skills, and abilities specified in the *Federal Technical Capability Manual* DDOE 426.1-1A, Chapter III, Section 1, 5.a & 5.b)

TQ.1.3 All SSO personnel have completed or are completing the General Technical Base Qualification Standard (DOE-STD-1146-2001) and one or more Functional Area Qualification Standard(s) in a technical area linked to their individual job descriptions (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.4 All SSO personnel have completed or are completing the site-specific qualification standard associated with assigned safety systems (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.5 SSO Supervisors have established methods to assign initial qualification dates, track progress toward qualification, and ensure retraining/requalification occurs as required for each SSO candidate in the qualification process (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4) through (6)).

Method of Appraisal:
Records Reviewed:

- Lead Systems Engineering Team Qualification Standard
- Mechanical Systems Engineer Qualification Standard
- Electrical Systems Engineer Qualification Standard
- Fire Protection Engineer Qualification Standard
- Assistant Manager for Nuclear Engineering Qualification Standard
- Qualified Officials List

Interviews Conducted:

- PXSO Training Coordinator
- SSO Personnel

Field Observations: None

Discussion of Results:

TQ.1.1

Presently the only supervisor with responsibility for SSO personnel is the AMNE. He has been issued a qualification standard and is scheduled to be qualified by 7/29/07. This criteria was considered met.

TQ.1.2

Technical qualification standards have been issued for all PXSO SSO personnel. For the SE Team Lead, Electrical SE, and Mechanical SE, the qualification standard consists of 6 competency areas: Professional Core Competencies; Functional Core Compentencies; Regulatory Core Competencies; Management, Assessment, & Oversight Competencies; Site Specific Competencies; and, Practical Factors. Professional Core Competencies were obtained from DOE Standard STD-1146-2001. Functional Core competencies were obtained from DOE Standards STD-1137-2000 (Fire Protection Engineering), STD-1161-2003 (Mechanical Systems), and STD-1170-2003 (Electrical Systems). Combinations of functional area competencies were selected for the SE Team Lead standard. For the Fire Protection SE, the qualification standard was revised to accommodate three independent qualification standards: General Technical Base; Fire Protection Engineering; and, Fire Protection Site Specific. This was done to allow greater flexibility in reassignments between the Complex sites requiring only future site-specific qualification.

A comparison of the SSO KSAs in DOE M 426.1-1A with the qualification competencies revealed that all KSAs were properly addressed.

This criteria was considered met.

TQ.1.3

Presently three of four SSO SE personnel are fully qualified and have completed the General Technical Base and one of the Functional Area qualification standards (ME, EE, FPE). These three are the Mechanical SE, Electrical SE, and the SE Team Lead. The Fire Protection SE is currently in the qualification process and is scheduled to be qualified by 2/26/2006. This criteria was considered met.

TQ.1.4

Presently three of four SSO SE personnel are fully qualified and have completed the Site Specific qualification standard. These three are the Mechanical SE, Electrical SE, and the SE Team Lead. The Fire Protection SE is currently in the qualification process and is scheduled to be qualified

by 2/26/2006. This criteria was considered met.

TQ.1.5

Training and qualification dates are formally assigned via the memorandum which transmits the qualification standard to the individual. These dates are tracked and distributed to management on a frequent basis via the TQP Progress Matrix which is distributed bi-weekly. Qualification progress which is less than satisfactory receives a yellow (for increased attention needed) color or red (significantly behind schedule and devoted time needed) color. This progress matrix is provided to the Office Manager and is discussed at the senior staff meeting.

Re-qualification dates are likewise tracked via the same TQP Progress Matrix.

This criteria was considered met.

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT
APPRAISAL FORM
FORM - 1

Objective Number: MG.1	Criteria Number: MG.1.1 – MG.1.8	Date of Review: August 25 – September 30, 2005

Objective: SSO Supervisors effectively perform their SSO program responsibilities.

Criteria:

MG.1.1 Site-specific SSO qualification standards and cards are developed (DOE M 426.1-1A, Chapter III, Section 1, 2.c (2)).

MG.1.2 Supervisors have identified and approved SSO candidate selection (DOE M 426.1-1A, Chapter III, Section 1, 2.c (3)).

MG.1.3 Supervisors of SSO personnel have established SSO personnel qualification schedules and are tracking progress (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4)).

MG.1.4 Supervisors facilitate SSO qualification (e.g., ensure sufficient time and training are provided to complete qualification tasks) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (5)).

MG.1.5 Supervisors ensure SSO personnel are trained and qualified to perform assigned duties (DOE M 426.1-1A, Chapter III, Section 1, 2.c (6)).

MG.1.6 SSO responsibilities are included and measured in Individual Performance Plans (IDPs) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (7)).

MG.1.7 Ensure SSO qualifications are maintained current by training and assignments planned in Individual Development Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (8)).

MG.1.8 SSO Supervisors periodically evaluate program effectiveness and implement corrective actions in a timely manner (DOE M 426.1-1A, Chapter III, Section 1, 2.c (9)).

Method of Appraisal:
Records Reviewed:

- Lead Systems Engineering Team Qualification Standard
- Mechanical Systems Engineer Qualification Standard
- Electrical Systems Engineer Qualification Standard
- Fire Protection Engineer Qualification Standard

- Assistant Manager for Nuclear Engineering Qualification Standard
- SSO Personnel IDPs

Interviews Conducted:

- PXSO Training Coordinator
- SSO Personnel

Field Observations: None

Discussion of Results:

MG.1.1
The site-specific qualification standards and cards were discussed previously under the TQ CRAD. This criteria was considered met.

MG.1.2
The SSO supervisor (AMNE) and SE Team Lead have been extensively involved in the selection of SSO candidates. For the selection of both the Electrical SE and the Fire Protection SE, the AMNE and SE Team Lead were members of the review committee which forwarded a recommendation for selection to the selecting official. This criteria was considered met.

MG.1.3
The tracking of SSO qualification progress was previously discussed under the TQ CRAD. This criteria was considered met.

MG.1.4
Both the SSO Supervisor and the SE Team Lead allot time to complete SSO qualification. Training courses are suggested to facilitate SSO qualification for inclusion into Individual Development Plans (IDP). This criteria was considered met.

MG.1.5
The status of SSO training and qualification was previously discussed under the TQ CRAD. Three of four SSO SE personnel are presently fully qualified. This criteria was considered met.

MG.1.6
During the development of the FY05 and FY06 IDPs, available training for SSO/SE was included. Two of four SSO personnel attended and help mentor the first SSO training course conducted at the National Training Center in 2005. The other two SSO personnel have included this SSO training in their FY06 IDPs. This criteria was considered met.

MG.1.7
During the development of the FY05 and FY06 IDPs, available training for SSO/SE was included. Two of four SSO personnel attended and help mentor the first SSO training course conducted at the NTC in 2005. The other two SSO personnel have included this SSO training in their FY06 IDPs. This criteria was considered met.

MG.1.8

This SSO Program self-assessment was conducted and led by the SE Team Lead to evaluate program effectiveness. Findings and corrective actions from previous assessments (OA Assessment and the first SSO Program Management Assessment) have been entered into the E-STARS data base for tracking to closure. This criteria was considered met.

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT
APPRAISAL FORM
FORM - 1

Objective Number: OP.1	Criteria Number: OP.1.1 – OP.1.4	Date of Review: August 25 – September 30, 2005

Objective: Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

Criteria:

OP.1.1 Oversight performed by SSO personnel establishes that the contractor System Engineer Program is effectively implemented with goals, objectives, and performance measures (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.2 SSO personnel maintain communication with the contractor's cognizant System Engineer (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.3 SSO personnel monitor performance of the contractor's cognizant System Engineer Program (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.4 SSO personnel attend selected contractor meetings with Facility Representatives and contractor personnel responsible for system performance (e.g., cognizant System Engineers, design authorities, and program managers) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

Method of Appraisal:
Records Reviewed:
- System Engineering Program Assessment FY 2005, November 2004
- BWXT SE Action Plan Mid-Year FY05 Assessment, August 2005

Interviews Conducted: None
Field Observations:
- Morning conference calls with FRS
- SE Bi-weekly Meetings
- TSR IIP Project Team Meetings
- Critiques (Loss of Power Event 8/26/05; Missed ISI for 12-104A/12-117 Loading Docks)

Discussion of Results:

OP.1.1
Evidence of SSO oversight of the SE Program was evident from two assessments conducted in FY05 of the BWXT SE Program (November 2004) and a Mid-year assessment of the SE

Program conducted in August 2004 on the status of correcting issues from the November assessment.

Specific performance measures have not yet been established for the contractor's SE Program. This was a finding from the SE Program Assessment (Finding 2005-SE-19). Action to address this finding is expected to be completed by the end of FY05. With the closure of the SE Program Assessment finding, the criteria will be met.

OP.1.2

Frequent SSO communication with BWXT SE counterparts was evident and takes place in many ways. Following the morning conference call, SSO SEs routinely contact their BWXT SE counterparts to obtain additional information regarding system problems which have occurred as documented in the Plant Shift Superintendent logs. In addition, bi-weekly meetings with BWXT SE Managers have occurred during most of FY05 during which the SSOs have the opportunity to raise issues of concern (both programmatic and system specific). In addition, SSO personnel are extensively involved with Integrated Implementation Plan (IIP) control implementation. BWXT SE has the primary responsibility for implementing the engineered controls credited in the DSA. This consists of establishing configuration management (drawings and calculations) for the credited SSCs. SSO personnel verified satisfactory implementation of IIP controls which necessitated a close working relationship with BWXT SE personnel. This criteria was considered met.

OP.1.3

As mentioned above, SSO personnel monitor performance of the BWXT SE Program through routine communications and periodic assessments. Following the morning conference call, SSO SEs routinely contact their BWXT SE counterparts to obtain additional information regarding system problems which have occurred. In addition, bi-weekly meetings with BWXT SE Managers have occurred during most of FY05 during which the SSOs have the opportunity to raise issues of concern (both programmatic and system specific). This criteria was considered met.

OP.1.4

As mentioned above, SSO personnel attend the bi-weekly SE Management meeting and the morning conference calls with the FRS. SSO personnel likewise attend any critiques held to discuss facts surrounding events involving credited SSCs under their purview. This criteria was considered met.

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT
APPRAISAL FORM
FORM - 1

Objective Number: OP.2	Criteria Number: OP.2.1 – OP.2.11	Date of Review: August 25 – September 30, 2005

Objective: SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Criteria:

OP.2.1 A qualified SSO is, in fact, knowledgeable of the system status, performance, maintenance, operations, design, and vulnerabilities of their assigned systems or programs. This is evidenced by:

OP.2.1.1 SSO personnel regularly and routinely review periodic system health/status reports (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.2 SSO personnel review test results, investigation reports, root cause analyses, etc (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.3 SSO personnel interface with external organizations that can provide insights on performance (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.4 SSO personnel perform assessments, periodic evaluations of equipment configuration and material condition and safety management program implementation (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

OP.2.1.5 SSO personnel evaluate the effects of aging on system equipment and components, the adequacy of work control and change control processes, and consider the appropriateness of system maintenance and surveillance activities with respect to reliable performance of safety function(s) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

OP.2.1.6 SSO personnel identify technical issues and participate actively in the resolution of the issues.

OP.2.2 Safety systems and safety management programs have established goals, objectives, and performance measures

OP.2.3 SSO personnel perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions, in conjunction with Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (4)).

OP.2.4 SSO personnel provide support to other Federal employees, as appropriate. (DOE M 426.1-1A, Chapter III, Section 1, 2.a (5))

OP.2.5 SSO personnel assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.a (6)).

OP.2.6 SSO personnel confirm configuration documentation, procedures, and other sources of controlling information are current and accurate (DOE M 426.1-1A, Chapter III, Section 1, 2.a (7)).

OP.2.7 SSO personnel report potential or emergent hazards immediately to DOE line management and Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.8 SSO personnel stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call Facility Representative (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.9 SSO personnel serve, when assigned, as qualifying officials in the development or revision of Functional Area Qualification Standards, mentor assigned backups, and qualify other candidates to the Functional Area Qualifications Standards needed to achieve Safety System oversight qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.a (9)).

OP.2.10 SSO personnel maintain cognizance of the appropriate funding and resources to maintain and improve safety systems (DOE M 426.1-1A, Chapter III, Section 1, 2.a (10)).

OP.2.11 Methods have been established for SSO personnel to routinely communicate system/program performance information and issues with STSMs and the Field Office Manager (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

Method of Appraisal:

Records Reviewed:

- System Engineering Program Assessment FY 2005, November 2004
- BWXT SE Action Plan Mid-Year FY05 Assessment, August 2005
- Assessment Report for the BWXT CRA for Group 1 TSRIIP Controls 12/2-12/11/03
- Assessment Report for the BWXT CRA for Group 2/3 TSRIIP Controls 4/21-7/9/04
- Assessment Report for the BWXT CRA for Group 3.5 TSRIIP Controls 8/2-9/8/04
- Assessment Report for the BWXT CRA for Group 4.5 TSRIIP Controls 1/10-2/11/05
- Assessment Report for the BWXT CRA for Group 5 TSRIIP Controls 3/7-4/29/05
- Assessment Report for the BWXT CRA for Group 6 TSRIIP Controls 5/9-6/30/05
- High Pressure Fire Loop Vulnerability Assessment 7/25/05-8/3/05
- Comments for the Building 12-44 and 12-64 Facility Upgrade Projects, Component Evaluation Facility Proposed Design, and Special Nuclear Material Component

Reevaluation Facility Design
- Qualified Officials List
- Comments on Priority Decrements List FY05 & FY06
- Weekly SE Reports

Interviews Conducted: None

Field Observations:
- Morning conference calls with FRS
- SE Bi-weekly Meetings
- TSR IIP Project Team Meetings
- Critiques (Loss of Power Event 8/26/05; Missed ISI for 12-104A/12-117 Loading Docks)

Discussion of Results:

OP.2.1.1

As mentioned under the OP.1.3 CRAD, the lack of an effective equipment tracking and trending program hinders this process. This issue was identified during the FY05 SE Program Assessment as finding 2005-SE-10. Action to address this issue is scheduled to be completed by the end of 2005. Upon establishment of the contractor's tracking and trending program, SSOs will have the necessary tools to monitor periodic system health reports. With the closure of the SE Program Assessment finding, the criteria will be met.

OP.2.1.2

In conjunction with TSR IIP control implementation, SSO SEs have performed numerous reviews of system surveillance and preventive maintenance test reports. These have been documented in the IIP Control Group assessment reports. As part of the daily routine, immediate system problems identified during the morning conference call likewise receive immediate SSO SE attention and followup. This effort, in addition to subsequent followup on the adequacy of ORPS corrective actions and closure with the FRS, routinely involves reviews of investigative reports and root cause analysis.

However, it was recognized that a schedule for SSO observation of routine periodic surveillance tests has not been established. **Opportunity for Improvement OP.2.1.2-1: Establish a schedule for SSO to observe routine periodic surveillance tests.**

OP.2.1.3

SSO SE personnel are in frequent contact with DNFSB Site Representatives as well as the PXSO POC for the CDNS staff. This criteria was considered met.

OP.2.1.4

The main initial focus for the SSO SE oversight assessments was to establish a satisfactory contractor SE program. Two assessments on the BWXT SE program were completed in FY05 and progress on closing the assessment findings has been monitored. In addition, the TSR IIP control implementation assessments performed by SSO SE personnel reviewed equipment configuration and material condition as well as the Configuration Management, Surveillance

Testing, and In-service Inspection safety management programs. Also an assessment was performed by SSO SE personnel on the safety-class High Pressure Fire Loop to identify vulnerabilities in system design and maintenance. This assessment included a review of the safety function of the system, system failure history, planned system modifications, and system health monitoring.

As noted during the OA assessment, a weakness regarding the lack of performing pro-active assessments of safety systems was evident. Completion of the actions to correct this weakness is scheduled for the end of the FY. Upon completion of the corrective action, this criteria will be met.

OP.2.1.5

As noted above, the TSR IIP control implementation assessments performed by SSO SE personnel reviewed equipment configuration and material condition as well as the Configuration Management, Surveillance Testing, and In-service Inspection safety management programs.

As noted during the OA assessment, a weakness regarding the lack of performing pro-active assessments of safety systems was evident. Completion of the actions to correct this weakness is scheduled for the end of the FY. Upon completion of the corrective action, this criteria will be met.

OP.2.1.6

As part of the daily routine, immediate system problems identified during the morning conference call are coordinated with the FRS for immediate attention and followup. In addition, in support of major facility upgrades and modifications, SSO SE personnel raised several technical issues with proposed designs of the Buildings 12-44 and 12-64 Facility Upgrades as well as proposed design of the new SNMCRF and Component Evaluation Facilities. This criteria was considered met.

OP.2.2

As mentioned under OP.1.1 specific performance measures have not yet been established for the contractor's SE Program. This was a finding from the SE Program Assessment (Finding 2005-SE-19). Action to address this finding is expected to be completed by the end of FY05. With the closure of the SE Program Assessment finding, the criteria will be met.

OP.2.3

SSO SE personnel routinely evaluate BWXT activities to troubleshoot and correct system problems. Following the morning conference call, SSO SE personnel contact their BWXT counterparts to ascertain the nature of the problem and any troubleshooting activities planned or accomplished. Close coordination with the FRS occurs for review and closure of any associated ORPS reports and corrective action for the event. SSO personnel likewise attend any critiques held to discuss facts surrounding events involving credited SSCs under their purview. This criteria was considered met.

OP.2.4
SSO SE support for other PXSO groups is evident from the FRS interfaces discussed previously and proposed design reviews conducted for facility upgrade projects and new facilities. In addition, the SSO SE supports the ABS in the review of proposed AB changes which affect credited safety SSCs.

OP.2.5
Assessments performed by SSO SE personnel have been previously discussed. Basically, the initial assessments conducted concentrated primarily on the establishment of an acceptable contractor SE Program to be in compliance with DOE Orders and guides. The TSR IIP control implementation assessments likewise assessed contractor compliance with pertinent codes/standards and authorization basis requirements.

In conjunction with the resolution of the OA finding regarding pro-active system assessments, more focus will be applied to system requirements. Upon completion of the actions to correct this weakness, this criteria will be met.

OP.2.6
During the TSR IIP control implementation assessments, configuration management of associated drawings, calculations, and other documents was verified. This subject will be included in the scope of the future pro-active system assessments discussed previously. Upon completion of the actions to correct this weakness, this criteria will be met.

OP.2.7
SSO SE reporting of potential or emergent hazards is discussed in IOP-AMNE-02 as one of their duties. Potential hazards with system design and construction deficiencies have been well documented for modifications to Buildings 12-86 (SNMCRF), and the new Administration Building.

OP.2.8
SSO SE personnel likewise have stop work authority. This is also discussed in IOP-AMNE-02 as one of the SSO duties. However, very little documentation exists which provides evidence of this authority being exercised. The SE section was extensively involved with a decision to order the contractor to stop modification activities to the Contaminated Waste Isolation Valve system. The contractor was going to modify the system to delete the sump and float switch without properly analyzing the potential environmental impacts. The PXSO AME&SEP actually issued the stop work letter with input from the PXSO SEs.

OP.2.9
SSO SE personnel have been assigned as qualifying officials for safety systems in the Qualified Officials List. SSO SE personnel have provided numerous training to FRS personnel for the new controls being implemented under the TSR IIP. Two of the SSO SE personnel helped mentor SSO trainees at the NTC during the first SSO training course. The SE Team Lead directly

developed the SE qualification standards and cards for all SSO personnel. This criteria was considered exceeded.

OP.2.10

SSO SE personnel have been actively engaged in the review of the Priority Decrements List (PDL) for FY05 & FY06 which identified items that exceeded available funding. Control implementation and correction of deferred maintenance issues were raised to the AMNE. This item was considered met.

OP.2.11

SSO SE personnel formally communicate system performance issues to the STSM (AMNE) in a weekly report. This report is utilized by the STSM to communicate these issues to the Site Manager during the weekly Senior Staff Meeting. As issues arise, the STSM is verbally informed immediately of significant issues. This criteria was considered met.

PXSO SAFETY SYSTEM OVERSIGHT PROGRAM SELF-ASSESSMENT APPRAISAL FORM
FORM - 2

Objective Number: OP.2	Criteria Number: OP.2.1.2	Finding Number: OP.2.1.2-1	Date of Review: August 25 – September 30, 2005

Issue:
Establish a schedule for SSO personnel to observe routine periodic surveillance tests.

Requirement(s):
DOE M 426.1-1A requires SSO personnel to perform assessments of equipment configuration and material condition and determine the appropriateness of system maintenance and surveillance.

Reference(s) (specific as to section):
DOE M 426.1-1A, Chapter III, Section 1.2.a(3)

Discussion:
Although SSO SEs have performed numerous reviews of system surveillance and preventive maintenance test reports in conjunction with TSR IIP control implementation, it was recognized that a schedule for SSO observation of routine periodic surveillance tests has not been established.

Finding Designation:
Opportunity for Improvement

Inspected by: _____ Team Member

Approved by: _____ Team Leader

Appendix B

PXSO

Safety System Oversight

Self-Assessment Plan

PXSO
Safety System Oversight
Self-Assessment
Plan

I. Introduction:

In coordination with commitments made in response to DNFSB Recommendation 2000-2 to implement a Safety System Oversight (SSO) program, the FY2004 Federal Technical Capability Program Plan Actions 2.5 and 2.6 required assessments be performed on the status of implementation of the SSO program at site offices. This assessment is intended to be the second assessment of the PXSO SSO Program conducted to ensure satisfactory complete implementation of program requirements. An initial assessment of the Implementation of the PXSO SSO Program was conducted in January 2005.

To assist in these assessments, specific criteria were developed and published (attachment 1). These Criteria and Review Approach Documents (CRADs) will be utilized to conduct this assessment to validate satisfactory implementation of the SSO program.

Dates of Review: 8/1/05-8/30/05

Team Members: Leader - Jeff Tedrow, SE Team Lead
Scott Dolezal, Jim Landmesser, Terry Zimmerman

II. Review Approach:

- Utilizing the appropriate CRAD for the functional area being assessed, review pertinent procedures and documentation to ascertain the status of implementation for the PXSO SSO program.
- Interview SSO personnel as necessary to ascertain the status of implementation for the PXSO SSO program.
- Conduct field observations as appropriate to ascertain the status of implementation for the PXSO SSO program.
- Review disposition of findings from the initial assessment of the SSO program. Assess adequacy of corrective actions taken.

III. Scope:

The scope of this assessment will be limited to the functional areas covered in the attached CRADS. These areas are Program, Training and Qualification, Management, and Oversight Performance.

IV. References:

- DNFSB Recommendation 2000-2, Configuration Management, Vital Safety Systems, dated March 8, 2000
- DOE M426.1-1A, Federal Technical Capability Manual, dated 5/18/04

- Federal Technical Capability Program Fiscal Tear 2004 Annual Plan, dated November 20, 2003
- IOP-AMNE-02, Safety System Oversight Program, Revision 0, dated 8/23/04

Safety System Oversight (SSO) Program
Implementation Assessment
Criteria and Review Approach Documents (CRADs)

Revision 0

PROGRAM (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Criteria

PGM.1.1 The SSO Qualification Program is part of the Technical Qualification Program (DOE M 426.1-1A, Chapter III, Section 1, 2.b (1)).

PGM.1.2 The SSO Program establishes appropriate training, qualification, and performance requirements for SSO personnel and the supervisors are held accountable for achieving them (DOE M 426.1-1A, Chapter III, Section 1, 2.b (2)).

PGM.1.3 The safety systems and safety management programs included in the SSO Program align with those systems and programs identified in the applicable Documented Safety Analysis (DOE M 426.1-1A, Chapter III, Section 1, 4.c).

PGM.1.4 Safety system oversight requirements are defined and implemented, forexample, functions, responsibilities, and authorities of personnel assigned to perform safety system oversight and their interface/support of Facility Representatives are clearly defined, and SSO staffing needs are identified and there is a plan or process to ensure future staffing needs are met and maintained (DOE M 426.1-1A, Chapter III, Section 1, 2.b (3) & (4)).

PGM.1.5 Affected DOE and contractor managers understand the SSO role and relationship to Facility Representatives and the contractor's cognizant System Engineers, and provide the necessary access and support (DOE M 426.1-1A, Chapter III, Section 1, 3.d).

PGM.1.6 Qualifying Officials are assigned to sign site-specific Qualification Cards (DOE M 426.1-1A, Chapter III, Section 1, 2.b (6)).

PGM.1.7 The SSO Program contains features to verify that SSO candidates possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performanceof safety systems in meeting established safety and mission requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.b (5)).

Approach

Record Review: Review documentation (e.g., site technical qualification program documents, SSO Program Plan, SSO Program procedures, qualification cards and/or standards, internal memorandums, Documented Safety Analyses, etc.) which establish the SSO Program and describe its implementation to determine that the program is complete and comprehensive.

Interviews: Interview management personnel with responsibilities for implementing and executing the SSO program to determine if they are familiar with the role of SSO personnel relative to the Facility Representatives and the contractor's cognizant system engineers, if they provide adequate resources for training, qualification, future staffing, and performance of SSO personnel, and if they appropriately qualified to perform their assigned role in the SSO program. Interview qualifying officials to determine if they are familiar with their role and responsibility, they are currently qualified, and they are performing their assigned role.

Field Observation: Evaluate any process used by or directed by the Field Element Manager to determine the effectiveness of SSO Program Performance.

TRAINING AND QUALIFICATION (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Criteria

TQ.1.1 Supervisors with responsibilities for SSO personnel maintain Senior Technical Safety Manager (STSM) qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.c (1)).

TQ.1.2 Site-specific qualification standards and cards have been developed and a documented process is implemented to assure that SSO candidates meet, at a minimum, the SSO knowledge, skills, and abilities specified in the *Federal Technical Capability Manual* DDOE 426.1-1A, Chapter III, Section 1, 5.a & 5.b)

TQ.1.3 All SSO personnel have completed or are completing the General Technical Base Qualification Standard (DOE-STD-1146-2001) and one or more Functional Area Qualification Standard(s) in a technical area linked to their individual job descriptions (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.4 All SSO personnel have completed or are completing the site-specific qualification standard associated with assigned safety systems (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.5 SSO Supervisors have established methods to assign initial qualification dates, track progress toward qualification, and ensure retraining/requalification occurs as required for each SSO candidate in the qualification process (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4) through (6)).

Approach

Record Review: Review qualification records to establish that supervisors and managers of SSO are qualified as an STSM and that SSO personnel are trained and qualified. Review qualification and requalification schedules, staffing plans, training plans, travel funding, etc. to determine that sufficient resources are provided for training, retraining, qualifying, and requalifying SSO personnel.

Interviews: Interview supervisors, training coordinators, SSO personnel, and budget personnel to establish that training and qualification plans and schedules are being executed as planned and that sufficient resources are provided to meet the schedules.

Field Observation: Observe activities associated with the qualification process, such as qualification boards, exams, walk throughs to determine that the training and qualification process is implemented and functioning effectively.

MANAGEMENT (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Criteria

MG.1.1 Site-specific SSO qualification standards and cards are developed (DOE M 426.1-1A, Chapter III, Section 1, 2.c (2)).

MG.1.2 Supervisors have identified and approved SSO candidate selection (DOE M 426.1-1A, Chapter III, Section 1, 2.c (3)).

MG.1.3 Supervisors of SSO personnel have established SSO personnel qualification schedules and are tracking progress (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4)).

MG.1.4 Supervisors facilitate SSO qualification (e.g., ensure sufficient time and training are provided to complete qualification tasks) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (5)).

MG.1.5 Supervisors ensure SSO personnel are trained and qualified to perform assigned duties (DOE M 426.1-1A, Chapter III, Section 1, 2.c (6)).

MG.1.6 SSO responsibilities are included and measured in Individual Performance Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (7)).

MG.1.7 Ensure SSO qualifications are maintained current by training and assignments planned in Individual Development Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (8)).

MG.1.8 SSO Supervisors periodically evaluate program effectiveness and implement corrective actions in a timely manner (DOE M 426.1-1A, Chapter III, Section 1, 2.c (9)).

Approach

Record Review: Review qualification cards, Individual Performance Plans, and other SSO program documents and procedures to establish that managers and supervisors are effectively performing their responsibilities as defined in the SSO program. Review other documentation used by supervisors to establish SSO program effectiveness and implementation of corrective actions.

Interviews: Interview supervisors and managers to establish that they are familiar with their assigned roles, they perform their assigned duties, monitor the effectiveness of the SSO program and ensure any identified corrective actions are implemented.

Field Observation: Observe any activities associated with SSO program effectiveness evaluations and/or corrective action implementation.

OVERSIGHT PERFORMANCE (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

Criteria

OP.1.1 Oversight performed by SSO personnel establishes that the contractor System Engineer Program is effectively implemented with goals, objectives, and performance measures (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.2 SSO personnel maintain communication with the contractor's cognizant System Engineer (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.3 SSO personnel monitor performance of the contractor's cognizant System Engineer Program (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.4 SSO personnel attend selected contractor meetings with Facility Representatives and contractor personnel responsible for system performance (e.g., cognizant System Engineers, design authorities, and program managers) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are overseeing implementation and execution of the contractor system engineer program. Review the contractor's system engineer program to determine whether there are any program weaknesses or deficiencies that have not been identified by SSO personnel.

Interviews: Interview SSO personnel, Facility Representatives, and contractor system engineers to establish the level of interface between SSO personnel and the contractor's cognizant system engineers.

Field Observation: Observe any oversight activities of the contractor's system engineer program performed by SSO personnel.

OBJECTIVE

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Criteria

OP.2.1 A qualified SSO is, in fact, knowledgeable of the system status, performance, maintenance, operations, design, and vulnerabilities of their assigned systems or programs. This is evidenced by:

OP.2.1.1 SSO personnel regularly and routinely review periodic system health/status reports (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.2 SSO personnel review test results, investigation reports, root cause analyses, etc (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.3 SSO personnel interface with external organizations that can provide insights on performance (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).

OP.2.1.4 SSO personnel perform assessments, periodic evaluations of equipment configuration and material condition and safety management program implementation (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

OP.2.1.5 SSO personnel evaluate the effects of aging on system equipment and components, the adequacy of work control and change control processes, and consider the appropriateness of system maintenance and surveillance activities with respect to reliable performance of safety function(s) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

OP.2.1.6 SSO personnel identify technical issues and participate actively in the resolution of the issues.

OP.2.2 Safety systems and safety management programs have established goals, objectives, and performance measures

OP.2.3 SSO personnel perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions, in conjunction with Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (4)).

OP.2.4 SSO personnel provide support to other Federal employees, as appropriate. (DOE M 426.1-1A, Chapter III, Section 1, 2.a (5))

OP.2.5 SSO personnel assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements(DOE M 426.1-1A, Chapter III, Section 1, 2.a (6)).

OP.2.6 SSO personnel confirm configuration documentation, procedures, and other sources of controlling information are current and accurate (DOE M 426.1-1A, Chapter III, Section 1, 2.a (7)).

OP.2.7 SSO personnel report potential or emergent hazards immediately to DOE line management and Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.8 SSO personnel stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call Facility Representative (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.9 SSO personnel serve, when assigned, as qualifying officials in the development or revision of Functional Area Qualification Standards, mentor assigned backups, and qualify other candidates to the Functional Area Qualifications Standards needed to achieve Safety System oversight qualification

(DOE M 426.1-1A, Chapter III, Section 1, 2.a (9)).

OP.2.10 SSO personnel maintain cognizance of the appropriate funding and resources to maintain and improve safety systems (DOE M 426.1-1A, Chapter III, Section 1, 2.a (10)).

OP.2.11 Methods have been established for SSO personnel to routinely communicate system/program performance information and issues with STSMs and the Field Office Manager (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are performing required oversight. Review contract requirements and their flow down through the contract to the safety systems and safety management programs to establish the effectiveness of SSO personnel oversight that the contractor complies with all requirements relative to safety systems and programs. Review a sample of the safety system health reports, safety system test reports, safety system investigation reports, safety system root cause analyses, etc. to determine the effectiveness of SSO personnel knowledge and familiarity with this information.

Interviews: Interview SSO personnel to determine their knowledge of and familiarity with assigned safety systems and safety management programs, and the reports that the contractor may generate in relation to the systems and programs.

Field Observation: Observe SSO personnel walk downs and other activities in the field to establish the level of SSO personnel knowledge and familiarity of safety systems.